

WHAT IS CLAIMED IS:

1. A method of inducing low density lipoprotein receptor expression through the sole activation of extracellular-signal regulated kinase (p42/44MAPK), comprising the step of:

contacting a cell with a compound that activates the extracellular-signal regulated kinase, p42/44MAPK, wherein the activation of said kinase results in the induction of low density lipoprotein receptor expression.

2. The method of claim 1, wherein said induction of low density lipoprotein receptor expression is independent of cell growth regulation.

3. The method of claim 1, wherein the extent of said induction of low density lipoprotein receptor expression is dependent on the extent of activation of p42/44MAPK.

4. A method of screening a candidate compound that induces p42/44MAPK-mediated LDL receptor expression, comprising the steps of:

5 contacting a cell that activates p42/44MAPK in response to extracellular stimulant with said candidate compound; and

measuring the activation of p42/44MAPK and low density lipoprotein receptor expression, wherein activation of p42/44MAPK and induction of low density lipoprotein receptor expression in the presence of said compound is indicative of said candidate compound can induce p42/44MAPK-mediated low density lipoprotein receptor expression.

15 5. The method of claim 4, wherein said cell is HepG2- Δ Raf-1:ER cell line.

6. A method of determining the level of low density lipoprotein receptor expression in an individual, comprising the step of:

examining the level of p42/44MAPK expression in said individual, wherein high p42/44MAPK expression is indicative of high low density lipoprotein receptor expression, and low p42/44MAPK expression is indicative of low low density lipoprotein receptor expression in said individual.